

RE-PRINT

Work Order ID 126852

126852

Page 1

Wednesday, February 18, 2015 10:58:20 AM

Item ID: D350-604-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Rear Locker Extender

Start Date: 1/16/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 1/16/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: C2

Date: 15/02/18 Tooling:

Date:

Run Start

NR1

QC:

Date: SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2273	y/k
D350-604-041	C <u>15/3/24</u>

100

Document Control

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile and create labels per PPP D350-604-041

CHG008

CHG009

DAS
CS
S-63

MAR 24 2015

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
		☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge
		☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other

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Setup Start

NS1

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Stop

NS2

Start Date: 1/16/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 1/16/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

NR1

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110	PURCHASING	0.00							
110									
Purchasing	Memo	0.00							
Purchasing	Issue P/O: 24650 27707								
	Description: D350-604-041 Rear locker extender.								
	Manufacture as per dwg D2273								
	Supplier: Carbon-by-Design								
	Certification of Conformity and process sheet from Carbon-by-Design is required.								
	FDC								
	EXTREME CARE MUST BE TAKEN TO PROTECT THE SURFACES OF THE REAR LOCKER. THE SURFACES MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS.								
	MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE								
120	Receive & Inspect for Damage & Mat'l Certs	0.00							
120	Packaging								
Packaging	Memo	0.00							
Packaging	Ensure a copy of Certification of Conformity and process sheet from Carbon-by-Design is attached.								
	DO NOT STACK REAR LOCKERS OR ANYTHING ON THEM								

CY 15/03/08 0

1K 2015-03-24

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
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Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge		
☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other		

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1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC6- Inspect dimensions to drawing

0.00

130

QC

Memo

0.00

Quality Control

Check hole locations to template. DT 8824 Check process sheet and audit.

① 15-0324

DAS

9

9-89

140

0.00

140

Small Fab

Memo

0.00

Small Fab

1- INSTALL DECALS AS PER DWG

~~2- INSTALL CAMLOCK STUDS AND RETAINING WASHER~~

instal by supplier

DAS
05
9-89

MAR 24 2015

150

QC5- Inspect part completeness to step on W/O

0.00

150

QC

Memo

0.00

Quality Control

MAR 24 2015

DAS

9

9-89

DQA: _____ Date: _____



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Material									
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Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Cust Item ID:

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1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
155	Pick Kit	0.00							
155									
Packaging	Memo	0.00							
Packaging	***DO NOT STACK REAR LOCKERS OR ANYTHING ON THEM***								
158	QC4- 100% Inspect kits for completeness	0.00							
158									
QC	Memo	0.00							
Quality Control									
160		0.00							
160									
Packaging									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D350-604-041								
	Location: _____								
	PPP Rev: _____								

MAR 24 2015
WF 15-3-24DAG
66
2-69
MAR 24 2015DAG
66
2-69
MAR 24 2015

Work Order ID 126852***126852***

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Setup Start

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Start Date: 1/16/2015 Start Qty: 1.00

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Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursTool ID Tool # Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

170

QC21- Final Inspection - Work Order Release

0.00

170

QC

Memo

0.00

Quality Control

ML5 15-03-24
MF
15-3-24

Picklist Print

Wednesday, February 18, 2015 10:58:20 AM

Page 1

Work Order ID: 126852

126852

Parent Item: D350-604-041

D350-604-041

Parent Item Name: Rear Locker Extender

Start Date: 1/16/2015

Required Date: 1/16/2015

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:Q03.12.01ReformatKJ/RF IPP REV:R
12.02.07 AS PER ECN12-521 DD verf:JLM IPP REV:S 12.04.04
AS PER DWG REV.B DD VERF:EC IPP REV:T 13.09.12 as per
CHG006/ECN13-616 DDVERF:JLM IPP REV:U 14.05.28 as per
chg008/ecn14-563 DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

2600-6		Purchased	No			140	Each	208.0000	4	4			
--------	--	-----------	----	--	--	-----	------	----------	---	---	--	--	--

2600-6

Camlock Stud

**

Location

Loc Qty

Loc Code

ST569

208

M128398

8

M129790

100

M131296

100

2600-LW

N/A-

Purchased

No

140

Each

191.0000

4

4

2600-1 W

Washer, Camlock Retaining

**

Location

Loc Qty

Loc Code

ST569

100

m131296

100

ST570

91

m128429

91

D2268

Manufactured

No

140

Each

15.0000

1

1

D2268

Placard

**

Location

Loc Qty

Loc Code

ST006

15

110734

3

127457

12

N/A
CL 15/03/24

MF 15-3#4

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General		
☐ Bending	☐ Bend	☐ Folio/Program	☐ Outside Dimensions
☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance
☐ Cracks	☐ Broken/Damage/Defect	☐ Hardware	☐ Part Incorrect
☐ Crimp/Kink/Ripple/Wave	☐ Burrs	☐ Inspection Incomplete/Unqualified	☐ Part Lost/Missing
☐ Cuffs	☐ Contamination	☐ Instructions Incomplete/Unclear	☐ Part Moved
☐ Crushing	☐ Countersink	☐ Misaligned/off center	☐ Positioned Wrong
☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Power Loss/Surge
☐ Inspection Strip in Tube	☐ Drawing	☐ Misread	☐ Pressure/Forced
☐ Marks/Chatter	☐ Drill Holes	☐ Off-set	☐ Set-up
☐ Turning Sequence	☐ Finish	☐ Out of Calibration	☐ Temperature/Cure
☐ Wave/Twist in Tube	☐ Fit/Function	☐ Out of Sequence	☐ Weld
			☐ Wrong Stock Pulled
			☐ Other

Picklist Print

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Page 2

Work Order ID: 126852

126852

Parent Item: D350-604-041

D350-604-041

Parent Item Name: Rear Locker Extender

Start Date: 1/16/2015

Required Date: 1/16/2015

Start Qty: 1.00

Required Qty: 1.00

D2269

DAS
66
9-89

Manufactured No

155

Each

16.0000

1

1

D2269

Placard

Location

Loc Qty

Loc Code

ST006

16

111345

4

127708

12

D2728-1

Manufactured Yes

140

Each

0.0000

0

0

D2728-1

Dart Logo Label Small

D350-604-041P

Purchased No

110

Each

0.0000

1

1

D350-604-041P

Rear Locker Extender

D5062-041

Manufactured No

155

Each

8.0000

1

1

D5062-041

Bracket Assembly

DAS
66
9-89

Location

Loc Qty

Loc Code

ST144

8

121957

8

mf 15-3-24

1X 8015-03-24

mf 15-3-24

DQA: _____ Date: _____



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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

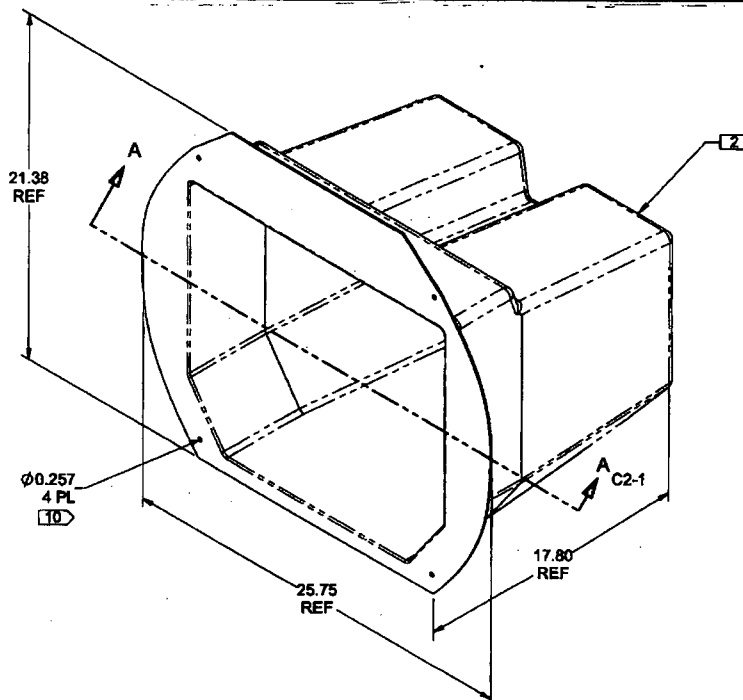
Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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TABLE 1

POSITION	MATERIALS
1	TOOL SURFACE
2	GEL COAT
3	7725 FIBER GLASS
4	3/4 oz CHOPPED STRAND MAT
5	7725 FIBER GLASS
6	7725 FIBER GLASS
7	PRIMER

TABLE 2

POSITION	MATERIALS
1	TOOL SURFACE
2	GEL COAT
3	7725 FIBER GLASS
4	3/4 oz CHOPPED STRAND MAT
5	7725 FIBER GLASS
6	7725 FIBER GLASS
7	7725 FIBER GLASS
8	7725 FIBER GLASS
9	7725 FIBER GLASS
10	PRIMER

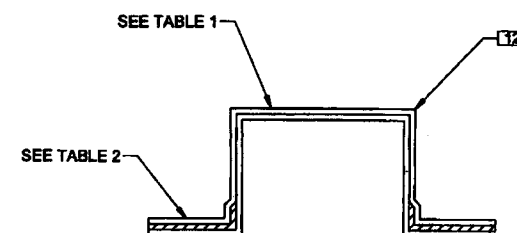


D2273 REAR LOCKER EXTENDER

TABLE 3

MATERIAL USED	DESCRIPTION
GEL COAT	4314-001 DURA FR WHITE GELCOAT
FIBER GLASS MAT	OWENS CORNING OR EQUIVALENT 3/4 oz CHOPPED STRAND MAT
FIBER GLASS CLOTH	HEXCEL 7725 FIBER GLASS
RESIN SYSTEM	PCCR 7524425UPR
PRIMER	DEFT MIL-PRF-85562E TYPE 1, CLASS 1

WID: 126852
CL 15102/18



SECTION A-A

C4-1

RELEASED
2014-01-03

J	CHANGED GELCOAT TO 4314-001 DURA FR WHITE	ML	13.12.10
I	CHANGE GELCOAT TO POLYCOR 2330PAWK745	SFM	13.06.13
H	CHANGE MATERIAL & MANUFACTURING PROCESS	DC	13.03.15
G	ADD MANUFACTURING OPTION B, ZN B5-1	DC	12.08.08
F	PRIMER LE 3404-S/LE 1175-S WAS 1144-S, ZN A8-1	DC	12.02.27
E	CHANGED SURFACE FINISH FROM 944W005 GELCOAT TO 2330PAWK745 GELCOAT, ZN A7-1. UPDATED DWG TO CURRENT STANDARDS.	DC	12.02.02
D	REMOVE EPOCAST, ADD SURFACE FINISH	CP	02.04.01
C	CLARIFY MATERIAL, LAYUP, AND TOOLING	RF	02.01.30
B	RE-DRAWN	MM	98.05.27
REV.	DESCRIPTION	BY	DATE
DESIGN	JB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	ML		
CHECKED		DRAWING NO.	REV. J
MFG. APPR.		D2273	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		350 REAR LOCKER EXTENDER	NTS
DATE	13.12.10	COPYRIGHT © 1998 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

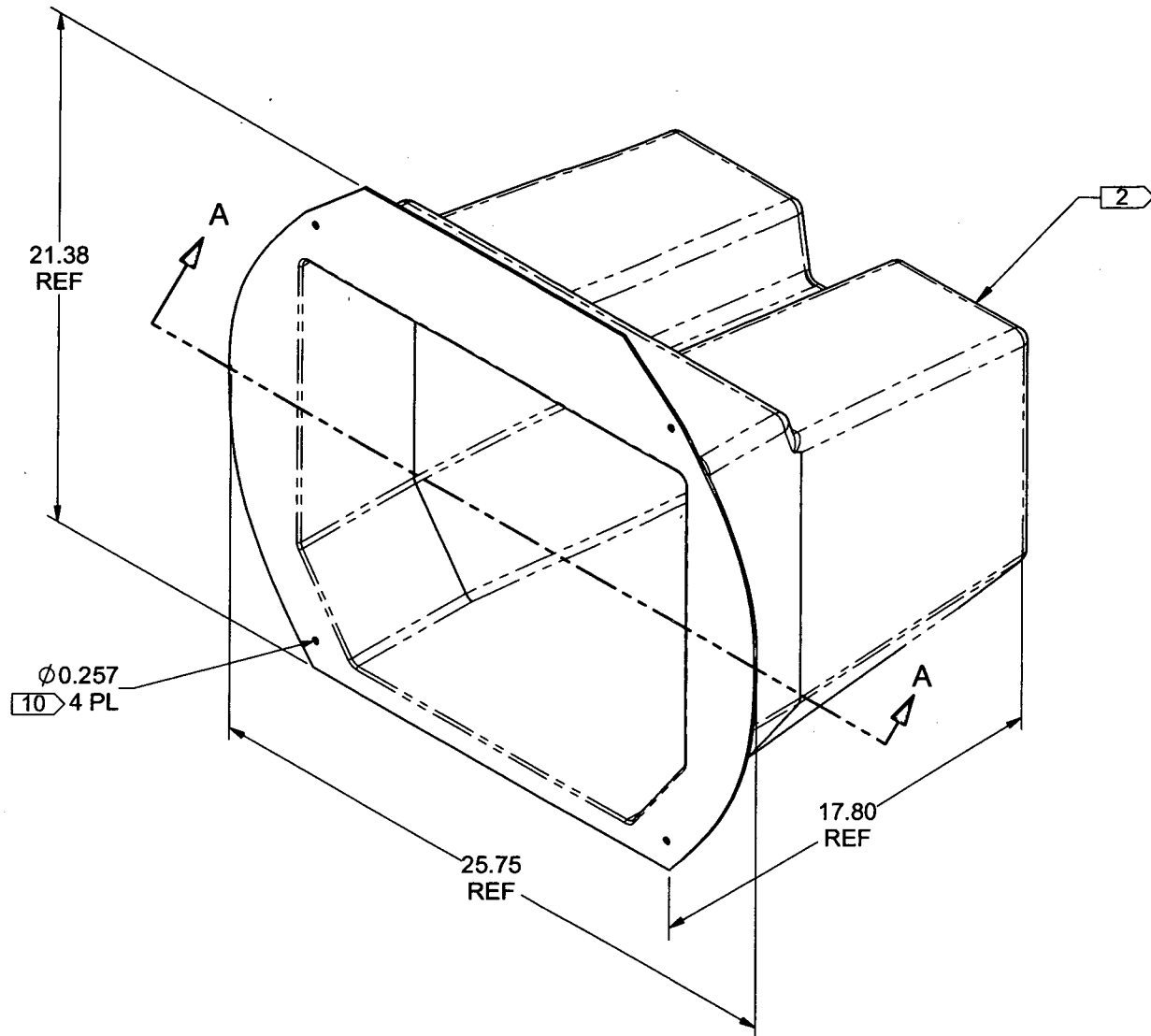
- NOTES:**
- 1) MATERIAL: SEE TABLE 3
 - 2) FINISH: SEE TABLES 1, 2, & 3
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
 - 7) WEIGHT: 5.5 - 7.5 lbs
 - 8) LAMINATE PER DART QSI 008. LAMINATION SCHEDULE PER THIS DRAWING
 - 9) LAYUP USING DT9871 MOLD. WET LAYUP WITH BAG/VACUUM
 - 10) TRIM & DRILL PER DT9805. OPEN HOLES TO Ø0.198
 - 11) CONSTRUCTION: SEE TABLES 1 & 2
 - 12) MATTE TO HOLD DOWN CORNERS AS REQUIRED

TABLE 1 K	
POSITION	MATERIALS
1	TOOL SURFACE
2	GEL COAT
3	3/4 oz CHOPPED STRAND MAT
4	7725 FIBER GLASS
5	7725 FIBER GLASS
9	7725 FIBER GLASS
10	PRIMER

TABLE 2 K	
POSITION	MATERIALS
1	TOOL SURFACE
2	GEL COAT
3	3/4 oz CHOPPED STRAND MAT
4	7725 FIBER GLASS
5	7725 FIBER GLASS
6	7725 FIBER GLASS
7	7725 FIBER GLASS
8	7725 FIBER GLASS
9	7725 FIBER GLASS
10	PRIMER

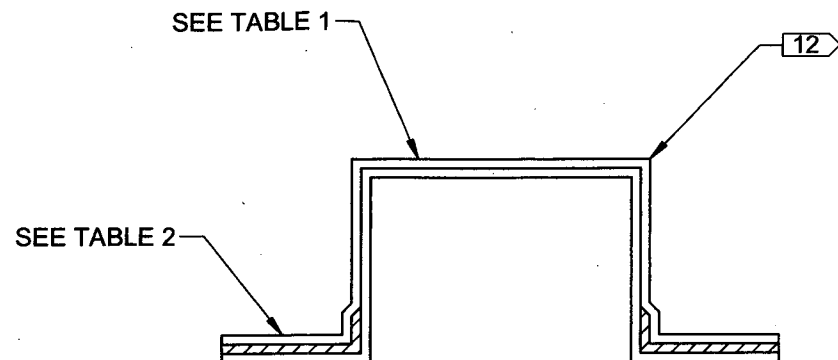
MATERIAL USED	DESCRIPTION
GEL COAT	POLYCOR 2330PAWK745 (WHITE)
FIBER GLASS MAT	OWENS CORNING 3/4 oz CHOPPED STRAND MAT
FIBER GLASS CLOTH	HEXCEL 7725 FIBER GLASS
RESIN SYSTEM	DION 7704
PRIMER	TEMPO 4500-PB-23G (GREEN)

NOTES:
1) MATERIAL: SEE TABLE 3
2) FINISH: SEE TABLES 1, 2, & 3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
7) WEIGHT: 5.5~ 7.5 lbs
8) LAMINATE PER DART QSI 006. LAMINATION SCHEDULE PER THIS DRAWING
9) LAYUP USING DT9871 MOLD. WET LAYUP WITH BAG/VACUUM
10) TRIM & DRILL PER DT9905. OPEN HOLES TO Ø0.196
11) CONSTRUCTION: SEE TABLES 1 & 2
12) MATTE TO HOLD DOWN CORNERS AS REQUIRED



D2273 REAR LOCKER EXTENDER

K TABLE 3



SECTION A-A

K	LAYUP AND MAT'L PER FDC COMPOSITES PROCESS	CP	15.03.12
J	CHANGED GELCOAT TO 4314-001 DURA FR WHITE	ML	13.12.10
I	CHANGE GELCOAT TO POLYCOR 2330PAWK745	SFM	13.08.13
H	CHANGE MATERIAL & MANUFACTURING PROCESS	DC	13.03.15
G	ADD MANUFACTURING OPTION B, ZN B5-1	DC	12.08.08
F	PRIMER LE 3404-S/LE 1175-S WAS 1144-S, ZN A6-1	DC	12.02.27
E	CHANGED SURFACE FINISH FROM 944W005 GELCOAT TO 2330PAWK745 GELCOAT, ZN A7-1. UPDATED DWG TO CURRENT STANDARDS.	DC	12.02.02
D	REMOVE EPOCAST, ADD SURFACE FINISH	CP	02.04.01
C	CLARIFY MATERIAL, LAYUP, AND TOOLING	RF	02.01.30
B	RE-DRAWN	MM	96.05.27
REV.	DESCRIPTION	BY	DATE
DESIGN	JB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	CP		
CHECKED	AJS	DRAWING NO.	REV. K
MFG. APPR.	DD	D2273	SHEET 1 OF 1
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	350 REAR LOCKER EXTENDER	NTS
DATE	15.03.12	COPYRIGHT © 1996 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

RELEASED

2015 MAR 24

4P ECN 15-545

APPROVED



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO27707**

Purchase Order Date 3/9/2015
PO Print Date 3/20/2015

Page Number 1 of 4

Order From : VC-FDC01
FDC COMPOSITES INC.
45 CHEMIN DE L'AEROPORT
ST-JEAN-SUR-RICHELIEU, QUEBEC J3B 7B5

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

REVISED \$

Contact Name
Vendor Phone 450-357-1344

Buyer Chantal Lavoie
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB Destination-Collect

Ship To Contact
Ship To Phone
Ship Via:
Ship Acct:

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	D350-604-041P AS PER DWG D2273 <i>REU.K</i> B126852	Rear Locker Extender	3/27/2015 Yes 3/27/2015		1.00 ✓ Each	\$640.00	\$640.00
Line Total:							\$640.00
2	D350-604-041P AS PER DWG D2273 <i>REU.K</i> B126853	Rear Locker Extender	3/27/2015 Yes 3/27/2015		1.00 Each	\$640.00	\$640.00
Line Total:							\$640.00
3	D350-604-041P AS PER DWG D2273 <i>REU.K</i> B126854	Rear Locker Extender	3/27/2015 Yes 3/27/2015		1.00 Each	\$640.00	\$640.00

Note:

3/20/2015

FDC Composites inc.
45, Chemin de L'Aéroport
Local 26
Saint-Jean-sur-Richelieu (QC)
J3B 7B5
Tél. : 450 357-1344

Bon de livraison

23/03/2015

Commande : 2102
Référence : PO #027707/1/2/3/4

Client : Dart

DART AEROSPACE
1270 Aberdeen Street
Hawksbury, ON
K6A 1K7

Expédier à

Même

Tél. : 1 613 632-9577

No item	Description	Qté	Qté livrée	Qté B/O
D350-604-041P	REAR LOCKER EXTENDER PO item: 027707/1 Lot: 2015-03-12 As per DWG: D2273 Rev J	1 ✓	_____	_____
D350-604-041P	REAR LOCKER EXTENDER PO item: 027707/2 Lot: 2015-03-17-1 As per DWG: D2273 Rev J	1	_____	_____
D350-604-041P	REAR LOCKER EXTENDER PO item: 027707/3 Lot: 2015-03-17-2 As per DWG: D2273 Rev J	1	_____	_____
D350-604-041P	REAR LOCKER EXTENDER PO item: 027707/4 Lot: 2015-02-18 As per DWG: D2273 Rev J	1	_____	_____

SP15-03-24

Transport : _____
Nb colis : _____

Réf. : _____

Marchandise reçue : _____



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CERTIFICATE of CONFORMITY

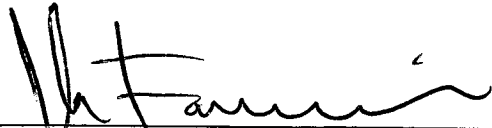
Customer Name: Dart Aerospace.

Customer P/O Number: PO27707

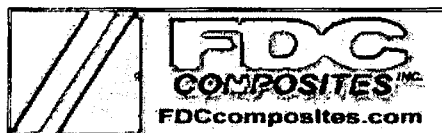
<u>PO Item</u>	<u>Qty</u>	<u>Part number</u>	<u>Drawing number</u>	<u>Description</u>	<u>Lot</u>
1	1	D350-604-041P	D2273 Rev J	350 Rear Locker Extender	2015-03-12 ✓
2	1	D350-604-041P	D2273 Rev J	350 Rear Locker Extender	2015-03-17-1
3	1	D350-604-041P	D2273 Rev J	350 Rear Locker Extender	2015-03-17-2
4	1	D350-604-041P	D2273 Rev J	350 Rear Locker Extender	2015-02-18

SAS-03-24

I hereby certify that the workmanship, material and the processes used in the manufacture of the above part(s) supplied are in accordance with the requirements of the applicable Purchase Order.


Jules Fournier, BDI, Quality Manager

Date: 2015-03-23



# LOT	2015-03-12
# SÉRIE(ID)	DAE001- 017

6,6/bs

Nom de Gamme :	Rear locker extender - DART
# de Gamme (et rev.) :	DAE001 Rev. A
Nom pièce - Client :	350 Rear locker extender - DART AEROSPACE
# de Dessins (et rev.) :	D2273 Rev. J

Fiche suiveuse

[10-60]	Préparation	Moule, Espace de travail, Matière premières, Consommables	2015-03-10 Nf	2015-03-11 Nf
[70-90]	Finition/Peinture	Appliquer Gel coat, Inspecter	2015-03-12 Nf	2015-03-13 SP
[100-150]	Laminage	Laminer, Démouler, Inspecter -	2015-03-12 A.D. p.b.	2015-03-12 SP
[160-220]	Usinage	Percer, Découper, Ébavurer, Inspecter, Sabler	2015-03-20 Jg	2015-03-16 Jg
[230-240]	Finition/Peinture	Primer, Inspection	2015-03-16 Nf	2015-03-21 Jg
250	Expédition	Emballer, Expédier	2015-03-23 Nf	2015-03-23 Jg

Gamme préparé par :

Guillaume G. Jasmin

Gamme révisée par :

Francis Lavigne-Larente

Gamme vérifiée par
(Chefs d'équipe) :

Maxime Gagné

Gamme approuvée par :

Maxime Gagné

Date d'émission :

2015-01-14

Toutes les étapes et les informations requises de cette gamme ont été complétées et remplies



Informations à remplir :

Cases grises pâles

Inspection :

Révisé 2015-03-24

31

6,6/bs.

Matières premières

Résine	501-409	2015/04/08	Dion 7704
Norox (Résine)	409-124	2015/04/17	MEKP-9
Norox (Gel coat)	409-124	2015/04/17	MEKP-9
Gel coat white	702015D10031	2015/04/19	Polycor 2330PAWK745
Mat ¾ oz/pi²	14070212	N/A	¾ oz Chopped Strand Mat (Owens Corning Or Equivalent)
Fibre de verre 7725	1288798	N/A	Hexcel 7725 Fiber Glass
Apprêt (Primer) (Vert)	14742	2016/08	Tempo 4500-PB-23G (Vert)
Durcisseur pour apprêt (hardener)	14838	2016/08	Tempo 4500-C-23

Moule : MOU306 ou MOU307	FMS	Sarrau
Pompe à vacuum	55NC	Lunettes de sécurité
Jig de découpe et perçage : GAB350	Peel ply	Soulier de protection
	Film perforé	Gants
	Bleeder breather	Masques à cartouches
	Bag big blue	
	Ruban scellant (Dum Dum)	

Annexe 1
Formulaire de résine (RES-DAR001)

MPS-300-93-31-007-NC	Démoulage 55NC
MPS-300-93-31-058-A	Composite part inspection
MPS-300-93-31-020-B	Edge finish after trimming
MPS-300-93-31-097-NC	Epoxy - Polyamide primer
MPS-300-93-31-084-NC	Protection et entreposage des pièces

Suivi des révisions

A	Révision d'une OP inspection, Ajout nouveaux moules et retrait d'un type de primer	2015-03-04	Guillaume G.Jasmin

Section A : PRÉPARATION

10	<u>Remplir les informations requises sur la première page (cases grises pâles)</u> • Demander au coordonnateur de production (ID) • Inscrire les heures et les dates d'entrée et de sortie de département		2015-03-10 118
20	<u>Découper la fibre et les périssables (Peel ply, sac étanche...) selon l'ANNEXE 1</u> • ACHEMINER et REMPLIR la section « Matière premières » pour : - Fibre de verre 7725 - Mat ¾ oz	Annexe 1	2015-03-10 118
30	<u>Préparer la résine selon RES-DAR001 (Gamme de formulation de résine)</u> ACHEMINER et REMPLIR la section « Matière premières » pour : - Résine - Norox	RES-DAR001	2015-03-12 118
40	PRÉPARER le moule ☒ Nettoyer et traiter le moule ☒ Poser le Masking tape	Annexe 1 MOU306 ou MOU307	2015-03-12 118
50	<u>Si nécessaire, traiter le moule au 55NC</u> • Faire le test de pelage, s'il ne passe pas, appliquer une couche de 55NC et refaire le test.	MPS-300-93- 31-007	2015-03-12 118
60	PRÉPARER l'espace de travail (pendant l'application du gel coat) ☒ Vérifier et préparer la pompe ☒ Préparer et distribuer les outils ☒ Protéger l'environnement de travail (tables, plancher, etc.) ☒ Vêtir l'équipement de protection personnel ☒ Partir la ventilation		2013-03-12 118

Section B : APPLICATION GEL COAT

70	(GEL COAT) : ACHEMINER et REMPLIR la section « Matière premières » pour : Gel coat		2015/03/12 		
80	APPLIQUER le Gel coat (18 - 22 mils) <table border="1" style="width: 100%; margin-top: 5px;"> <tr> <td style="width: 40%; text-align: center;">Heure d'application</td> <td style="width: 60%; text-align: center;">13 h 15 min.</td> </tr> </table>	Heure d'application	13 h 15 min.	Annexe 1	2015-08-12 N98
Heure d'application	13 h 15 min.				
90	<u>Point d'inspection (Inspecteur Qualité) :</u> ☐ Épaisseur du gel coat : 18 - 22 mils ☒ Qualité de l'application du gel coat : Uniforme et esthétique.		Inspecteur 2 Qualité		

<u>Section C : LAMINAGE</u>			
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100	<u>Points d'inspection (Inspecteur Qualité ou Chef d'Équipe) :</u> ☒ Donner l'approbation pour que la pièce puisse être laminée (le gel coat est « amoureux » ou « tack free »)		Inspecteur 2 Qualité
-----	--	--	---

110	LAMINER <table border="1"> <thead> <tr> <th>Position</th> <th>Matériel</th> </tr> </thead> <tbody> <tr> <td>10F</td> <td>¾ oz Chopped strand MAT</td> </tr> <tr> <td>20F</td> <td>7725 Fibre de verre</td> </tr> <tr> <td>30F</td> <td>7725 Fibre de verre</td> </tr> <tr> <td>40R</td> <td>7725 Fibre de verre</td> </tr> <tr> <td>50R</td> <td>7725 Fibre de verre</td> </tr> <tr> <td>60R</td> <td>7725 Fibre de verre</td> </tr> <tr> <td>70F</td> <td>7725 Fibre de verre</td> </tr> </tbody> </table> ☒ S'assurer que tous les plis dans le tableau ont été laminés <table border="1"> <tbody> <tr> <td>Heure début laminage</td> <td>14 h 05 min</td> </tr> <tr> <td>Heure mise sous-vide (sac scellé)</td> <td>15 h 05 min</td> </tr> <tr> <td>Intensité du vide (25 inHg)</td> <td>25 inHg</td> </tr> </tbody> </table>	Position	Matériel	10F	¾ oz Chopped strand MAT	20F	7725 Fibre de verre	30F	7725 Fibre de verre	40R	7725 Fibre de verre	50R	7725 Fibre de verre	60R	7725 Fibre de verre	70F	7725 Fibre de verre	Heure début laminage	14 h 05 min	Heure mise sous-vide (sac scellé)	15 h 05 min	Intensité du vide (25 inHg)	25 inHg	Annexe 1	2015-03-12 Mantri Chait A-D 0.1
Position	Matériel																								
10F	¾ oz Chopped strand MAT																								
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60R	7725 Fibre de verre																								
70F	7725 Fibre de verre																								
Heure début laminage	14 h 05 min																								
Heure mise sous-vide (sac scellé)	15 h 05 min																								
Intensité du vide (25 inHg)	25 inHg																								
120	LAISSER POLYMERISER la pièce sous vide pendant 2h		2015-03-12 W/A																						
130	<u>DÉMOULER et IDENTIFIER la pièce</u> ☒ Écrire le numéro de pièce et la date sur un collant – # de lot (date de début) – # de série ID Ex : (AAAAMMJJ) – (DAE001-XXX) ☒ Placer la pièce sur la table d'inspection	Annexe 1	2015-03-16 60																						
140	<u>Point d'inspection (inspecteur qualité) :</u> ☐ Identifier la présence de surplus de résine ☐ Identifier la présence de bulles d'air ☒ Identifier la présence de zone sèche ☒ Identifier la présence de plis de fibre	MPS-300-93-31-058	2015-03-16 Inspecteur 2 Qualité																						

150	<u>Nettoyer le moule</u> - Enlever la résine durcie tout le tour du moule avec une spatule en plastique pour ne pas endommager le moule <u>Si nécessaire</u>, nettoyer le moule avec un chiffon légèrement humecté de nettoyant à moule (PMC) NE PAS TROP APPLIQUER DE "PMC"	Spatule en plastique	2015-03-15 
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Section D : USINAGE

160	INSTALLER le gabarit de perçage et découpe	GAB350 Annexe 1	2015-03-16 
170	PERÇER la pièce Perçer 4 trous avec un forêt F (Dia. .257 po)	Annexe 1	2015-03-16 
180	DÉCOUPER la pièce Retirer le gabarit de découpe une fois terminé	Annexe 1	2015-03-16 
190	ÉBAVURER les arêtes vives	MPS-300-93-31-020	2015-03-16 
200	<u>Point d'inspection (inspecteur qualité) :</u> ☒ Plier les flanges (rebords) afin de s'assurer que le Gel coat ne craque pas (Voir Annexe 1 pour ce test) ☒ Vérifier la conformité de la pièce (Dimensions) selon le no. de dessin et selon le MPS-300-93-31-058	Annexe 1 MPS-300-93-31-058	2015-03-16 
210	SABLER l'extérieur de la pièce Papier 120 à 320 grains		2015-03-16 
220	NETTOYER les surfaces extérieures		2015-03-16 

Section E : FINITION/PEINTURE

230	APPLIQUER le primer	MPS-300-93-31-097	2015-03-16 Nof
240	<u>Inspection finale :</u> • Validation de la finition (pinholes, surface inégale, etc...) • Vérifié s'il y a un panneau de contrôle relié à la pièce • Étamber le carré dans le coin inférieur droit de la deuxième page • Valider l'identification de la pièce	MPS-300-93-31-058	2015-03-21 Inspecteur 2 Qualite

Section F : EXPÉDITION

250	Emballer et expédier	MPS-300-93-31-084	2015-03-23 Nof
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